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(54) HARD COATING FOR CUTTING TOOL, MANUFACTURING METHOD THEREFOR, AND TARGET FOR FORMING HARD COATING

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a hard coating for a cutting tool superior to a TiAlN film in abrasion resistance.

SOLUTION: The hard coating is constituted by a compound expressed by  $(Alb, [Cr1-\alpha V\alpha]c) (C1-dNd)$ , where the symbols satisfy  $0.5 \leq b \leq 0.8$ ,  $0.2 \leq c \leq 0.5$ ,  $b+c=1$ ,  $0.05 \leq \alpha \leq 0.95$ , and  $0.5 \leq d \leq 1$ . Alternatively, the hard coating is constituted by a compound expressed by  $(Ma, Alb, [Cr1-\alpha V\alpha]c) (C1-dNd)$ , where M is at least one selected from the group consisting of Ti, Nb, W, Ta and Mo, and other symbols satisfy  $0.02 \leq a \leq 0.3$ ,  $0.5 \leq b \leq 0.8$ ,  $0.05 \leq c$ ,  $a+b+c=1$ ,  $0.5 \leq d \leq 1$ , and  $0 \leq \alpha \leq 1$  ( $\alpha$  indicates an atomic ratio of M). However, M and  $\alpha$  shall not be simultaneously Ti and zero respectively.

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